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09/856,175	06/04/2001	Hiromu Ueshima	100341-00008	9628

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EXAMINER	
PAPPAS, PETER	

ART UNIT	PAPER NUMBER
2628	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/856,175	UESHIMA ET AL.	
	Examiner	Art Unit	
	PETER-ANTHONY PAPPAS	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 December 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6 and 8-49* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3-6 and 8-49* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *04 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

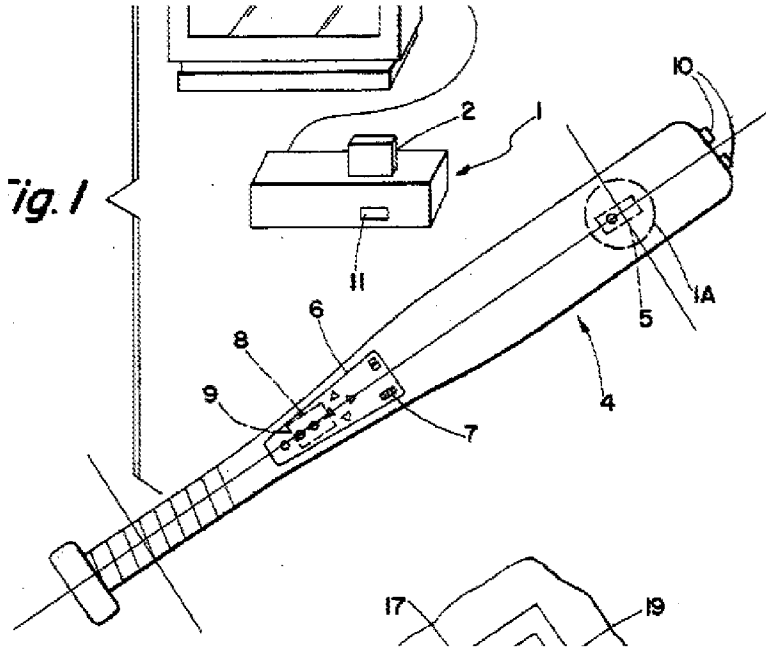
> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 6, 8, 11, 15, 39, 41 and 44-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182) in view Marinelli (U.S. Patent No. 6, 157, 898).

3. In regard to claim 1 Lipps et al. teaches an apparatus including a video baseball-simulating game and a special bat (Abstract), wherein an input device (e.g., special bat) is to be moved in a 3D space by a game player (Figs. 1 and 4) and a game processor is utilized for causing a change in the batter displayed on a screen (col. 3, lines 13-17; Fig. 1). Lipps et al. teaches that said bat includes a grip (col. 2, lines 45-47; Fig. 1). It is implicitly taught that said bat, which serves as an input device, is grasped by said player at said grip when used as an input device.

Lipps et al. teaches that the batter's swing is sensed via a centrifugal switch and the appropriate signals are transmitted to a game system. When the bat is swung, the centrifugal force (acceleration correlated signal) causes a weight to move toward a switch. At swing speeds faster than some critical speed, the weight has enough force to actuate the switch (col. 5, lines 58-67; col. 6, lines 12-26). It is noted that the respective claim language fails to disclose what exactly constitutes a "main surface" and therefore

the exterior surface of said switch is considered to read on a “main surface." Thus, it is noted that the main surface of said switch is considered to be both parallel and perpendicular (only one of which is required by the respective claim language) to the longitudinal direction of said grip (Fig. 1, illustrated below, has been modified to more clearly illustrate the relationship between the switch and the grip).



Lipps et al. fails to explicitly teach wherein a piezoelectric buzzer is incorporated into said input device. Marinelli teaches a device for measuring a movable object, such as a baseball, football, hockey puck, soccer ball, tennis ball, bowling ball, or a golf ball, wherein the speed, spin rate and curve of said movable object can be determined and displayed via an output display (Abstract; col. 1, lines 13-21). Multiple sensors should be employed in order to most accurately measure centrifugal force due to rotation, if that rotation can occur along an infinite number of axes through the center of a moving object, such as a baseball (col. 10, lines 7-39). Marinelli further teaches that

acceleration sensor network 102 may contain accelerometers of one or more of the following types: piezoelectric, mechanical, micro-machined silicon chip, or any other type small enough to be embedded, secured, or attached in a movable object (col. 8, lines 45-49).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Marinelli, which are directed towards the measuring and display of properties related to a movable object, into the apparatus taught by Lipps et al., which is directed towards the measuring and display of properties related to a movable object, and replace said switch with said buzzer because Lipps et al. discloses using more information about the swing to perform a better simulation of the game (col. 1, lines 45-47) and through such incorporation of said sensors, as taught by Marinelli, this would be able to be achieved with a greater degree of accuracy, thus allowing for display data representative of said measured data to be presented in a more life like manner. It is noted that the replacement of said switch with said buzzer is not considered to alter position relationship information (e.g., relationship between the switch/buzzer and the grip).

Lipps et al. teaches that if the ball is in the strike zone and the player has the right timing a hit will result and the action of the video game will respond appropriately – e.g., by providing a moving video depiction of the simulated activity as affected by the player's movement of the object (col. 3, lines 57-59, col. 7, lines 47-54). It is implicitly taught that a moving video depiction of said ball, after a successful hit is registered, is

considered an appropriate response initiated by said system as a hit ball would be part of said simulated activity.

4. In regard to claim 6 Lipps et al. teaches that said ball game is a baseball game (Abstract) and that said input means includes a bat input device (Fig. 1). Lipps et al. teaches that if the ball is in the strike zone and the player has the right timing a hit will result and the action of the video game will respond appropriately, e.g., by providing a moving video depiction of the simulated activity as affected by the player's movement of the object (col. 3, lines 57-59, col. 7, lines 47-54).

5. In regard to claim 8 Lipps et al. teaches that said input device includes a racket input device (col. 4, lines 19-20).

6. In regard to claim 11 Lipps et al. fails to explicitly teach wherein said signal output means includes at least one pair of acceleration sensors which are provided so as to sandwich an origin, and evaluates a moving speed of said input device in accordance with a sum of detection values of said pair of acceleration sensors and a rotating speed of said input device in accordance with a difference of said detection values of aid pair of acceleration sensors.

Marinelli teaches a device for measuring a movable object, such as a baseball, football, hockey puck, soccer ball, tennis ball, bowling ball, or a golf ball, wherein the speed, spin rate and curve of said movable object can be determined and displayed via an output display (Abstract; col. 1, lines 13-21). Marinelli teaches that multiple sensors should be employed in order to most accurately measure centrifugal force due to rotation, if that rotation can occur along an infinite number of axes through the center of

a moving object, such as a baseball. For a system having three centrifugal force sensors, sensing along three orthogonal axes, most likely none of the three will perfectly align with the true centrifugal force vector which lies in a plane orthogonal to the axis of rotation. Hence, measurements from all three sensors (summation of data) should be used along with trigonometric relationships to derive the true centrifugal force. The electronic processor circuit or the monitor processor may apply an adjustment factor to the measured elapsed time based upon the application. For example, in a baseball pitch, the point at which a spin event is detected in the windup and release of the baseball will affect the speed calculation (col. 10, lines 7-39).

Marinelli teaches for a rotating sphere, such as a baseball, the mechanical g-force sensor switch network would optimally consist of a pair of diametrically opposed switches along each of two orthogonal axes. The electronic processor circuit determines that the movable object is spinning if g-force proportional sensor 442 senses a g-force that differs from g-force proportional sensor 444, or g-force proportional sensor 448 senses a g-force that differs from g-force proportional sensor 450 (col. 18, lines 18-27; col. 19, lines 22-27). Said sensors are considered to sandwich the origin, as illustrated in Figs. 4A, C-D.

The motivation disclosed in the rejection of claim 1 is incorporated herein.

7. In regard to claim 15 Lipps et al. teaches that if the ball is in the strike zone and the player has the right timing a hit will result and the action of the video game will respond appropriately. If the player's swing is too early or too late the batter will be charged with a strike (col. 3, lines 57-62). It is noted that for a hit to occur based on the

"right timing" the timing of both a bat and ball, which produce said hit through user interaction, must coincide. It is inherent that a hit ball will have a moving direction based on, at least in part, the object or objects used to hit said ball.

8. In regard to claim 39 Lipps et al. teaches that the batter's swing is sensed via a centrifugal switch and the appropriate signals are transmitted to a game system. When the bat is swung, the centrifugal force (acceleration correlated signal) causes a weight to move toward a switch. At swing speeds faster than some critical speed (predetermined level), the weight has enough force to actuate the switch (col. 5, lines 58-67; col. 6, lines 12-26). It is noted that the actuation of said switch and the resulting signal that is generated is considered to read on an "ON signal." It is further noted that the language "...a timing that said acceleration switch is turned-on..." is considered to read on the time in which said acceleration switch is activated. It is inherent that a hit ball will have a moving direction based on, at least in part, the object or objects used to hit said ball. Lipps et al. fails to teach a moving speed of said ball. The rationale disclosed in the rejection of claims 11 and 26 are incorporated herein.

9. In regard to claim 41 Lipps et al. teaches that in a currently preferred form of the invention, the centrifugal switch 5 comprises a disc 15, made of steel or other dense material, that moves longitudinally in a guide housing 16. When the bat 4 is swung, the disc 15 is propelled toward the outer end of the bat 4 pressing a switch actuator 17 against a return spring 18 to close or open a switch 19 in the adjacent circuitry and thus to modulate the radiation from the infrared light emitting diodes 10 (col. 2, lines 36-44).

10. In regard to claim 44 the rationale disclosed in the rejection of claim 6 is incorporated herein.

11. In regard to claim 45 the rationale disclosed in the rejection of claim 8 is incorporated herein.

12. In regard to claim 46 Lipps et al. teaches acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner (col. 2, lines 54-58).

13. In regard to claim 47 Lipps et al. teaches wherein said acceleration correlated signal transmitting means includes an infrared-ray emission element and a light receiving element which receives the infrared -ray from said infrared -ray emission element (col. 2, lines 52-58).

14. Claims 3 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182) and Marinelli (U.S. Patent No. 6, 157, 898), as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of Tosaki et al. (U.S. Patent No. 6, 312, 335 B1).

15. In regard to claim 3 Lipps et al. teaches acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner (col. 2, lines 54-58). At swing speeds faster than some critical speed (predetermined level), the weight has enough force to actuate the switch (col. 5, lines 58-67; col. 6, lines 12-26).

However, Lipps et al. and Marinelli fail to a magnitude level of the acceleration correlated signal. Tosaki et al. teaches a first object of the present invention is to

provide an input device, game processing device and a method and recording medium for same, whereby an instrument such as a fishing rod, sword, bat, golf club, or the like can be simulated without mechanical constraints (col. 1, lines 59-63). The acceleration sensor 105 outputs an analogue signal which is directly proportional to the acceleration acting on the input device 1. The encoder 106 converts the value of the analogue signal output by the acceleration sensor 105 when a reset signal is input from the oscillator 109 to digital data (col. 7, lines 5-10). In the mode for detecting the strength of movement, the magnitude of the digital data output by the acceleration sensor 105 indicates the strength of centrifugal force, and this data may be treated directly as the strength of acceleration, or in other words, the strength of movement (col. 7, lines 44-48). When the player moves the input device 1, the acceleration acting on the input device 1 is detected by the acceleration sensor 105. This data is converted to digital data by the encoder 106 and then transmitted to the game processing device 2 via the multiplexer 107 (col. 8, lines 60-64). The game developing means 501 develops the game and displays images on a display 301 on the basis of the detecting signals input from the detecting means 401 of the input device and the operating signals supplied By the buttons and keys 403 (col. 9, lines 54-58).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Tosaki et al. into the apparatus taught by Lipps et al. and Marinelli, which teaches a baseball-simulating game (Lipps et al. – Abstract), because Tosaki et al. teaches that since the aforementioned game processing device conducts a game simulating the actions of actual fishing, in response

to the player's operation of an input device, it is possible to provide a game which is highly realistic for the player (col. 15, lines 37-41). It is noted that while Tosaki et al. teaches fishing said teachings are not limited to those of fishing (col. 1, lines 59-63).

16. In regard to claim 9 Lipps et al. teaches wherein said acceleration correlated signal transmitting means includes an infrared-ray emission element and a light receiving element which receives the infrared -ray from said infrared -ray emission element (col. 2, lines 52-58).

17. Claims 4 and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182) and Marinelli (U.S. Patent No. 6, 157, 898), as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of Lipson (U.S. Patent No. 5, 435, 554).

18. In regard to claim 4 Lipps et al. and Marinelli fail to explicitly teach: said game processor including at least operation processing means, image processing means, sound processing means and a memory; said operation processing means executing a program code stored in an information storage medium and calculating at least a position, moving direction and speed of the ball character on the basis of an acceleration correlated signal outputted from said signal output means; said image processing means generates image information including the ball character by use of image data stored in said information storage medium under control of said operation processing means; said sound processing means reproducing sound by use of sound data stored in said information storage medium under control of said operation

processing means; said memory being used for at least said operation processing means to hold a process and result of an operation.

Lipson teaches a computer 42 having six processes which are implemented as combinations of computer hardware and software: pitch selection process 44, hit/miss determination process 45 and hit-ball trajectory process 46, animation model process 43, video process 47 and audio process 49 (col. 5, lines 23-42; Fig. 2). It is noted processes 44-46 are considered operation processing means and processes 43 and 47 are considered image processing means. Pitch selection process 44 includes a series of instructions stored in a memory unit (information storage medium) for inputting user data via the animation process 43 and calculating the appropriate pitch trajectory based on the user inputs (col. 5, lines 43-61). Audio process 49 generates appropriate sound signals for sounds such as crowd noise, bat and ball contact noise, ball and glove contact noise, and the like. These sound signals are transduced by a speaker 50 thus providing audio feedback to the user 41 (col. 6, lines 8-14).

Lipson teaches the ball's trajectory (direction and position) is determined by the initial hit angle and the initial velocity (speed) of the ball coming off the bat (col. 15, lines 59-68; col. 16, lines 1-39). Once the result of the hit ball is determined, the appropriate animation sequence is displayed on the video screen to include the previously hit ball and the advancement of any runners on base (col. 12, lines 32-42).

It is inherent that image data is stored in memory.

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teaching of Lipson into the apparatus taught by Lipps et al.

and Marinelli, because Lipps et al. teaches using additional information about the swing to perform a better simulation of the game (col. 1, lines 45-47) and the determination of position, moving direction and speed of a given ball which has been hit as the result of a given swing, as taught by Lipson, would provide a more realistic baseball simulation with regard to both sight and sound (col. 16, lines 40-58).

19. In regard to claim 42 the rationale disclosed in the rejection of claim 4 is incorporated herein.

20. Claims 5 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), Marinelli (U.S. Patent No. 6, 157, 898) and Lipson (U.S. Patent No. 5, 435, 554), as applied to claims 4 and 42, in view of Tosaki et al. (U.S. Patent No. 6, 312, 335 B1).

21. In regard to claim 5 Lipps et al. teaches that the signals of said input device are conveyed to a typical commercially available game machine 1 (col. 2, lines 29-33; 51-53). However, Lipps et al., Marinelli and Lipson fail to explicitly teaching wherein said information storage medium includes a non-volatile semiconductor memory. Tosaki et al. teaches a game processing device 2 (game machine), where said device comprises a CPU 201, RAM 202 and ROM 203. Said ROM 203 stores initialization programs for when the power is switch on (non-volatile memory) and image data (col. 8, lines 23-29).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate non-volatile memory for use in a game machine, as taught by Tosaki et al., into the apparatus taught by Lipps et al., Marinelli and Lipson, because non-volatile memory is a conventional type of memory used in computer systems and

through the use of said memory it would allow for said machines to properly operate, for example, when they are powered on from a powered off state.

22. In regard to claim 43 the rationale disclosed in the rejection of claim 5 is incorporated herein.

23. Claims 10 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), Marinelli (U.S. Patent No. 6, 157, 898), as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of Zur et al. (U.S. Patent No. 5, 833, 549).

24. In regard to claim 10 Lipps et al. teaches that if the ball is in the strike zone and the player has the right timing a hit will result and the action of the video game will respond appropriately. If the player's swing is too early or too late the batter will be charged with a strike (col. 3, lines 57-62). It is noted that for a hit to occur based on the "right timing" the timing of both a bat and ball, which produce said hit through user interaction, must coincide.

However, Lipps et al. and Marinelli fail to explicitly teach detecting a timing that said acceleration correlated signal reaches a peak value. Zur et al. discloses calculating the peak speed of said input device and then and then evaluating a parameter for the change of said ball for the change of said ball character on the basis of at least the peak value of the moving speed of said input device (col. 10, line 49-63).

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Zur et al. into the apparatus taught by Lipps et al. and Marinelli, because by calculating the peak speed of the input device it would

reliably predict the trajectory of the ball (col. 2, lines 12-15) and thus present a more realistic simulation.

25. In regard to claim 49 Lipps et al. teaches acceleration correlated signal transmitting means for transmitting the acceleration correlated signal in a wireless manner (col. 2, lines 54-58). At swing speeds faster than some critical speed (predetermined level), the weight has enough force to actuate the switch (col. 5, lines 58-67; col. 6, lines 12-26). The rationale disclosed in the rejection of claim 10 is incorporated herein. It is inherent that a hit ball will have a moving direction (parameter of movement) based on, at least in part, the object or objects used to hit said ball.

26. Claims 16 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), Marinelli (U.S. Patent No. 6, 157, 898), as applied to claims 1, 6, 8, 11, 15, 39, 41 and 44-47, in view of Nomura et al. (U.S. Patent No. 5, 779, 555).

27. In regard to claim 16 Lipps et al. and Marinelli fail to explicitly teach taking the course of said ball character into account. Nomura et al. teaches a swing type athletic equipment and more particularly to a swing type athletic equipment such as golf club or the like and a practice apparatus therefor (col. 1, lines 5-7), wherein said equipment (apparatus) includes a triaxial acceleration sensor mounted on the head, a data processing unit for processing acceleration data in three detection-axis directions outputted from the triaxial acceleration sensor, a data transmission unit for transmitting the data outputted from the triaxial acceleration sensor to the data processing unit and a

display means for displaying results of processing by the data processing unit (col. 2, lines 40-43).

Nomura et al. teaches that the practice apparatus may further include a ball discharge direction detection means for detecting a direction of discharge of a golf ball hit, wherein the data processing unit operates a direction of discharge of the golf ball, rotation thereof and a flying distance thereof based on the acceleration data in the three detection-axis directions outputted from the triaxial acceleration sensor when the golf ball is hit by the golf club and data outputted from the ball discharge direction detection means, resulting in display data for displaying a locus of the ball on the display means being outputted to the display means depending on results of operation by the data processing unit. This results in obtaining data on acceleration of the golf club both during swing thereof and at the time of impact thereof, so that resultant or synthesized acceleration applied from the golf club to a ball may be calculated. Also, integration of each of the data provides a speed or velocity of the ball in each of the directions (col. 5, 27-33). It is noted said direction, rotation and distance information for a given ball, which is based on said acceleration data, is considered to read on course information for said ball.

It would have been obvious to one skilled in the art, at the time of the Applicant's invention, to incorporate the teachings of Nomura et al. into the apparatus taught by Lipps et al., which is directed towards the measuring and display of properties related to a movable object, because Lipps et al. discloses using more information about the swing to perform a better simulation of the game (col. 1, lines 45-47) and through such

incorporation it would provide a more accurate result for said object (Nomura et al. – col. 8, lines 21-24), thus presenting a more realistic simulation. It is noted that while Nomura et al. teaches golfing said teachings are not limited to those of golf (col. 7, lines 50-56).

28. In regard to claim 40 the rationale disclosed in the rejection of claim 16 is incorporated herein.

29. Claims 12, 13, 22, 23, 48, 26, 32 and 35-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182).

30. In regard to claim 12 the rationale disclosed in the rejection of claim 1 is incorporated herein (Lipps et al.). It is noted said special bat is considered to comprises a plurality of surfaces that are different from one another (Fig. 1 – e.g., one portion of said bat's surface contains a button panel 6, while other portions of said bat do not).

Lipps et al. teaches a plurality of wireless transmitting means for transmitting said acceleration correlated signal. Lipps et al. teaches that typically said transmission is via infrared, but it may also comprise radio or ultrasonic (col. 2, lines 52-58; col. 3, lines 1-5, 24-30). However, Lipps et al. fails to explicitly teach transmitting the acceleration correlated signal from different surfaces of said input device. It would have been obvious to one skilled in the art, at the time of the Applicant's invention, that a device comprising a plurality of wireless signal generating elements would generate and emit said signals from different surfaces of said input device (e.g., different areas of said bat), because wireless signals are not bound to a particular volume of transmission (e.g., such as a wire) and thus said signals would penetrate through various areas of

said input device. Furthermore, a given input device comprising a plurality of transmitting means would typically have said transmitting means located in different locations of said bat, resulting in the origin of said signals differing from one another. In addition by locating said transmitting means in different locations it would allow for maximum flexibility in how they are placed within said input device resulting in an input device which would be easier to design and manufacture, as opposed to a device with stricture design constraints.

31. In regard to claim 13 the rationale disclosed in the rejection of claim 15 is incorporated herein.

32. In regard to claim 22 the rationale disclosed in the rejection of claim 6 is incorporated herein.

33. In regard to claim 23 the rationale disclosed in the rejection of claim 8 is incorporated herein.

34. In regard to claim 48 Lipps et al. teaches the use of a plurality of infrared light emitting diodes 10 (col. 2, lines 43-44).

35. In regard to claim 26 Lipps et al. teaches an apparatus including a video baseball-simulating game and a special bat (Abstract), wherein an input device (i.e. said special bat) is to be moved in a 3D space by a game player (Figs.1, 4) and a game processor is utilized for causing a change in the batter displayed on a screen (col. 3, lines 13-17; Fig. 1). Lipps et al. teaches that the batter's swing is sensed via a centrifugal switch and the appropriate signals are transmitted to a game system. When the bat is swung, the centrifugal force (acceleration correlated signal) causes a weight

to move toward a switch. At swing speeds faster than some critical speed (predetermined level), the weight has enough force to actuate the switch (col. 5, lines 58-67; col. 6, lines 12-26).

Lipps et al. teaches that if the ball is in the strike zone and the player has the right timing a hit will result and the action of the video game will respond appropriately – e.g., by providing a moving video depiction of the simulated activity as affected by the player's movement of the object. If the player's swing is too early or too late the batter will be charged with a strike (col. 3, lines 57-59, col. 7, lines 47-54). It is noted that for a hit to occur based on the "right timing" the timing of both a bat and ball (e.g., moving timing), which produce said hit through user interaction, must coincide.

Lipps et al. fails to explicitly teach wherein said timing includes a depth position in said screen. Official Notice is taken that both the concept and the advantages of representing objects in video games in 3D, where one of said three dimensions is depth, are well known and expected in the art. Thus, it would have been obvious to one skilled in the art, at the time of the Applicant's invention, to represent objects utilized in the video game taught by Lipps et al. (e.g., such as a baseball and/or baseball player) in 3D, because through the incorporation of depth it would add an additional degree of realism, which is what Lipps et al. is directed toward (realism – col. 1, lines 39-44), thus resulting in an improved user experience.

36. In regard to claim 32 the rationale disclosed in the rejection of claim 26 is incorporated herein (col. 5, lines 58-67; col. 6, lines 12-26).

37. In regard to claim 35 the rationale disclosed in the rejection of claim 6 is incorporated herein.

38. In regard to claim 36 the rationale disclosed in the rejection of claim 8 is incorporated herein.

39. In regard to claim 37 the rationale disclosed in the rejection of claim 9 is incorporated herein.

40. Claims 14 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), as applied to claims12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Nomura et al. (U.S. Patent No. 5, 779, 555).

41. In regard to claim 14 the rationale disclosed in the rejection of claim 16 is incorporated herein.

42. In regard to claim 27 the rationale disclosed in the rejection of claim 16 is incorporated herein.

43. Claims 17, 18, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Zur et al. (U.S. Patent No. 5, 833, 549).

44. In regard to claim 17 the rationale disclosed in the rejection of claim 10 is incorporated herein.

45. In regard to claim 18 the rationale disclosed in the rejection of claim 49 is incorporated herein.

46. In regard to claim 30 the rationale disclosed in the rejection of claim 10 is incorporated herein. It is inherent that a hit ball will have a moving direction (parameter of movement) based on, at least in part, the object or objects used to hit said ball.

47. In regard to claim 31 the rationale disclosed in the rejection of claim 30 is incorporated herein.

48. Claims 19 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Tosaki et al. (U.S. Patent No. 6, 312, 335 B1).

49. In regard to claim 19 the rationale disclosed in the rejection of claim 3 is incorporated herein.

50. In regard to claim 24 the rationale disclosed in the rejection of claim 9 is incorporated herein.

51. Claims 20 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view of Lipson (U.S. Patent No. 5, 435, 554).

52. In regard to claim 20 the rationale disclosed in the rejection of claim 4 is incorporated herein.

53. In regard to claim 33 the rationale disclosed in the rejection of claim 4 is incorporated herein.

54. Claims 21 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182) and Lipson (U.S. Patent No. 5, 435, 554), as applied to claims 20 and 33, in view of Tosaki et al. (U.S. Patent No. 6, 312, 335 B1).

55. In regard to claim 21 the rationale disclosed in the rejection of claim 5 is incorporated herein.

56. In regard to claim 34 the rationale disclosed in the rejection of claim 5 is incorporated herein.

57. Claims 25, 28, 29, 38 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lipps et al. (U.S. Patent No. 5, 741, 182), as applied to claims 12, 13, 22, 23, 48, 26, 32 and 35-37, in view Marinelli (U.S. Patent No. 6, 157, 898).

58. In regard to claim 25 the rationale disclosed in the rejection of claim 11 is incorporated herein.

59. In regard to claim 28 the rationale disclosed in the rejection of claim 1 is incorporated herein (Marinelli – Abstract; col. 1, lines 13-21).

60. In regard to claim 29 the rationale disclosed in the rejection of claim 1 is incorporated herein.

61. In regard to claim 38 the rationale disclosed in the rejection of claim 11 is incorporated herein.

Response to Arguments

62. In response to Applicant's remarks that the Office Action does not set forth a "piezoelectric buzzer arrange perpendicular to or in parallel with a longitudinal direction of the grip" or that the piezoelectric buzzer in Marinelli is arranged perpendicular to or in parallel with a longitudinal direction of the grip the Applicant is directed to the respective above rejection.

It is noted that the respective claim language discloses "...a main surface of said piezoelectric buzzer is perpendicular to or in parallel with a longitudinal direction of the grip..." Said claim language fails to disclose what exactly constitutes a “main surface" of said switch/buzzer. Therefore, the exterior surface of said switch/buzzer is considered to read on a “main surface." The longitudinal direction of said grip is considered to run in parallel with the longitudinal direction (main surface – e.g., the widest section) of said switch/buzzer. In addition, the longitudinal direction of said grip is considered to run perpendicular to the latitudinal direction (main surface – e.g., the thinnest section) of said switch/buzzer. It is further noted that only one of said two conditions (parallel and perpendicular) is required to be met to address the respective clam limitations. This requirement is considered to be met.

63. In response to Applicant’s remarks that it is not inherent that the mere substitution of element would result in the same positioning and there is no disclosure or suggestion in the cited references and no assertion in the Office Action that piezoelectric buzzer in Marinelli would have a main surface arranged as the switch in Lipps et al. the Applicant is directed to the respective rejection above.

As previously stated it is noted that the respective claim language fails to disclose what exactly constitutes a “main surface" of said switch/buzzer. Lipps et al. is introduced, at least in part, to teach the use of a centrifugal switch. Marinelli is introduced, at least in part, to teach the use of a piezoelectric buzzer. As disclosed above it is the position of the Examiner that it would have been obvious to replace said switch with said buzzer because Lipps et al. discloses using more information about the

swing to perform a better simulation of the game (col. 1, lines 45-47) and through such incorporation of said sensors, as taught by Marinelli, this would be able to be achieved with a greater degree of accuracy, thus allowing for display data representative of said measured data to be presented in a more life like manner. To reiterate the switch is replaced by said buzzer and thus it is the position of the Examiner that the buzzer would have substantially the same positional relationship as the element it is replacing, keeping in mind that once again it is noted that the respective claim language fails to disclose what exactly constitutes a “main surface" of said switch/buzzer.

64. In response to Applicant’s remarks that the Office assets that the bat is comparable to the input device the Examiner agrees. However, in response to Applicant’s remarks that the Office asserts that the centrifugal switch is comparable to the signal output means it is the position of the Examiner that said centrifugal switch generates a signal output but does not necessarily dictate how said signal output is transmitted. As disclosed in the respective rejection above Lipps et al. teaches a plurality of wireless transmitting means for transmitting said acceleration correlated signal. Lipps et al. teaches that typically said transmission is via infrared, but it may also comprise radio or ultrasonic (col. 2, lines 52-58; col. 3, lines 1-5, 24-30).

65. In response to Applicant's remarks that the references fail to show certain features of applicant’s invention, it is noted that the features upon which applicant relies (i.e., comprising a plurality of transmitting means in a single output means) are not recited in the rejected claim(s). Although the claims are interpreted in light of the

specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

66. In response to Applicant's remarks in regard to newly amendment claim language the Applicant is directed to the respective rejection which have been clarified to address said amendments.

67. Applicant's remarks have been fully considered but are not deemed persuasive.

Conclusion

68. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PETER-ANTHONY PAPPAS whose telephone number is (571)272-7646. The examiner can normally be reached on M-F 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 571-272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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